

BOOK REVIEW

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The Foundations of Wildlife Chemical Capture: Essential Elements and Best Practices. Mark Johnson. Global Wildlife Resources. <https://courses.wildlifecaptureandcare.com/Foundations-information-page>. 150 pp. US\$580.

Review by Jane Harms

There is no doubt that the coronavirus disease 2019 (COVID-19) pandemic has changed many things in our lives and will continue to do so for the foreseeable future. It was timely then that I was asked recently to review Dr. Mark Johnson's *The Foundations of Wildlife Chemical Capture* online course. As a territorial government veterinarian who provides wildlife chemical capture training for staff, options for providing this type of training during the pandemic have been limited. Dr. Johnson's online course provides a great option for anyone who needs training in the area of wildlife capture, including graduate students, wildlife management professionals, conservation officers, and veterinarians.

The *Foundations* course is available at any time, and anyone can register. Once you are enrolled, the online course content is available to you for 365 days. In addition, students have email access to Dr. Johnson with regard to questions and feedback on the course, and for larger groups that sign up for the course together, real-time Zoom meeting sessions with Dr. Johnson are included. The course is divided into 12 chapters, which cover a range of topics including the ethics of wildlife capture and handling, immobilizing drugs and drug delivery systems, patient monitoring,

animal handling procedures, veterinary emergencies, and human safety. Each chapter is divided into several subsections that are a combination of video presentations, short written sections that are read at the student's own pace, and links to additional learning resources such as videos, document templates, protocols, and other instructional resources. Most of the templates and protocols are downloadable to keep for future reference. One of the benefits of an online course such as this is the ability of a student to complete the course at their own pace, and to return to any section at a later date. For some students, this may mean working straight through the main course material, while for others, they may prefer to take the opportunity to investigate the additional recourses for each section. A quiz at the end of each chapter tests the student's grasp of the material. These are quite short, but they allow the student to check their comprehension of the material they have covered.

In addition to the online course, students have access to a downloadable course notebook. This notebook covers all of the same material as in the online course (without the videos and images). As a permanent resource for students, this notebook is a valuable reference that can be used even after access to the online course is complete.

Throughout the course, Dr. Johnson highlights ethical considerations for handling wildlife respectfully and with every consideration for their care and welfare. The first chapter of the course is on the ethics of wildlife capture, which emphasizes Dr. Johnson's interest and passion for this aspect of animal handling. In Chapter 2, a review of the

“Big Picture” perspective that is needed for each immobilization project is provided before delving into the details, which gives students an overview of some of the key considerations for capturing wildlife. Some parts of this course have a US focus, which is notable in Chapter 3, where legalities with regard to veterinary drugs used for wildlife immobilization are covered. This chapter also covers record keeping for drugs, which is applicable in any location. Chapter 4 gives a nice review of the drug delivery systems available in North America, as well as detailed instructions on using syringes and needles, which could be valuable for newer students who have limited or no experience in this area. As with many parts of wildlife capture training, it is very difficult to replace hands-on learning and instruction with online resources. However, throughout this course, Dr. Johnson has worked hard to convey some of these techniques (including passing a stomach tube) via video format. An excellent overview of the most common veterinary drugs used in wildlife chemical immobilization is provided in Chapter 5. This is often difficult material to cover, even in person, particularly for students with no veterinary background. This course does a nice job of summing up the key elements of the most common drugs, while emphasizing the need for discussion with experienced wildlife veterinarians and biologists before developing any drugging protocols.

Chapters 6–9 cover extensively the main protocols and procedures that wildlife professionals may use during chemical immobilization of wildlife. There is a lot of material in these chapters, and less experienced students would probably benefit from covering these chapters more than once. Dr. Johnson clearly outlines the key steps and considerations for wildlife immobilization, and while he keeps the content somewhat nonspecific with regard to location or species, most of the examples and videos in this section are focused on North American wildlife. This can make the course feel somewhat more geared to students in North America and Europe; however, the important principles and concepts are well represented, and they should be very applicable to students and projects in other parts of

the world. Once again, in these chapters, respect for each animal is highlighted, and the protocols have a strong consideration for the animal’s welfare during a capture.

Chapters 10 and 11 consider the more challenging aspects of immobilization, namely, veterinary emergencies and euthanasia. In Chapter 10, each of the most common emergencies encountered during wildlife immobilization are discussed, and Dr. Johnson offers details on prevention and treatment of each. While the list is not extensive, the course covers the key elements and emphasizes prevention of these emergencies as much as possible.

The final chapter is dedicated to human safety. This section is relatively short and mainly focused on accidental drug exposure. This part could possibly be expanded with more details on human safety issues from animal and associated (e.g., trap) hazards, and injuries associated with immobilization equipment. There is also a subsection on wildlife capture and COVID-19. This section offers some resources to students, but it avoids providing prescriptive details on what to do and how to manage wildlife captures during the pandemic.

In the introduction to the course, Dr. Johnson states that “this is the most current and extensive course in wildlife chemical immobilization.” It is difficult to prove or disprove this claim, as there are other online courses available and certainly numerous in-person offerings on this topic from around the globe (at least pre-COVID pandemic!). Whether this course is the most extensive or not, it certainly provides a high level of training in this field that is very accessible to any type of student. The limitations of an online vs. in-person course notwithstanding, I can recommend *The Foundations of Wildlife Chemical Capture* to wildlife professionals, students, and their supervisors as an excellent resource for training in this area, particularly during this time of social distancing and limited travel.

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